

PATENT COOPERATION TREATY  
**PCT**

REC'D 20 JAN 2005



WIPO PCT

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference X61267	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/03221	International filing date ( <i>day/month/year</i> ) 29.07.2003	Priority date ( <i>day/month/year</i> ) 06.08.2002
International Patent Classification (IPC) or both national classification and IPC H03L7/18		
Applicant MBDA UK LIMITED ET AL.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  01.03.2004	Date of completion of this report  20.01.2005
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Aouichi, M  Telephone No. +31 70 340-1961 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/03221

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-8 as originally filed

**Claims, Numbers**

1-5 as originally filed

**Drawings, Sheets**

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/03221

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-5
Inventive step (IS)	Yes: Claims	
	No: Claims	1-5
Industrial applicability (IA)	Yes: Claims	1-5
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following document:

D1: US-A-6 091 356 (SANDERS MICHAEL LEE ET AL) 18 July 2000 (2000-07-18)

- 1 The application does not meet the requirements of Article 6 PCT, because claims 1,3-5 are not clear.
  - 1.1 Claims 1 and 3 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. It is not clear which technical features do the expressions "first control signal" and "second control signal" refer to. Furthermore, the purposes of said "first control signal" and "second control signal" are not clear.
  - 1.2 Claims 4 and 5 contain references to the description and/or the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which has not been the case here.
- 2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-5, as far as it could be understood (see point 1), is not new in the sense of Article 33(2) PCT.
  - 2.1 The document D1 discloses (column 5, line 4 - column 8, line 42; figure 1) and (column 10, line 62 - column 11, line 28; figure 7) a swept frequency source comprising a phase-locked loop frequency synthesiser, the phase-locked loop including:
    - a voltage controlled oscillator (10);
    - means for generating a first swept waveform (11);
    - means for modulating (23) the voltage-controlled oscillator (10) with the first swept frequency waveform;
    - a reference frequency source (18);
    - frequency discriminator means (22) for generating an output voltage (6) for controlling the voltage-controlled oscillator (10), the frequency/phase discriminator means (22) having a first input (20) for receiving an input from the reference

frequency source (18) and a second input (26);  
means (30) to generate a first control signal (28) whose frequency is in a predetermined relationship to the instantaneous output frequency of the voltage-controlled oscillator;  
neutraliser means (24) comprising:  
an input for receiving the first control signal (28);  
second sweep waveform means (inside 24) for generating a second sweep waveform corresponding with the first sweep waveform  
means responsive to the first control signals and the second sweep waveform to generate a second control signal (26) whose level traverses a signal threshold at instants of time at which the first control signal would have crossed a corresponding threshold had no modulation been applied to the voltage controlled oscillator; and  
means to apply (low pass filter 25 MHZ) the second control signals to the second input of the frequency/phase discriminator means.  
Hence claim 1 lacks novelty with respect to D1.

- 2.2 Similar reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding method independent claim 3, which therefore is also considered not new.
- 2.3 Dependent claims 2,4 and 5 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see document D1 and the corresponding passages cited in the search report.